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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,783	02/27/2004	William S. Worley JR.	35064.006	9436

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EXAMINER

BULLOCK JR, LEWIS ALEXANDER

ART UNIT	PAPER NUMBER
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2195

MAIL DATE	DELIVERY MODE
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01/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/789,783

Applicant(s)

WORLEY, WILLIAM S.

Examiner

Lewis A. Bullock, Jr.

Art Unit

2195

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/19/05</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 40-43 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The cited claims are directed to an operating system comprising of means for partition system resources, transferring control of resources and providing communication between the partitions all of which can be software and is thus software per se. The cited claims do not meet the statutory category of inventions since the claims are not a method, machine (combination of software and hardware or just hardware), article of manufacture or composition of matter.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-7, 17, 27-29, 31, 32, and 40-43 are rejected under 35 U.S.C. 102(e) as being anticipated by TODA (U.S. Patent Application Publication 2002/0029301 A1).

As to claim 1, TODA teaches a method comprising: determining which system resources of a computer system, if any, are to remain under control of a resident operating system of the computer system and which of the system resources are to be placed under control of one or more customized execution environments, CE2s, that are to be established within the computer system (via the information of partitioned hardware resources management table that is obtained to partition the resources among the various partitions such that the operating system of the partitions remove hardware resources associated with another partition from its management table) (pg. 2, paragraph 0042-0044; pg. 3, paragraph 0045-0047); and partitioning the system resources among the resident operating system and the one or more CE2s by associating one or more partitions of the system resources with the one or more CE2s (via the information of partitioned hardware resources management table that is obtained to partition the resources among the various partitions such that the operating system of the partitions remove hardware resources associated with another partition from its management table) (pg. 2, paragraph 0042-0044; pg. 3, paragraph 0045-0047).

As to claim 17, refer to claim 1 for rejection. Claim 17 further details the system resources including one or more processors and one or more ranges of physical memory. TODA teaches the partitioning of resources and allowing for full control of the system resources to the operating system or CE based on the partitioning wherein the

resources a processors and one or more ranges of physical memory (pg. 2, paragraph 0042-0044; pg. 3, paragraph 0045-0047).

As to claim 27, reference is made to a system that corresponds to the method of claim 1 and is therefore met by the rejection of claim 1 above.

As to claim 28, refer to claim 27 for rejection. Claim 28 further details employing hardware based security measures to isolate the system resources, surrendering full control of resources to the respective partitions, and the resources including I/O devices. TODA teaches employing hardware based security measures to isolate the system resources (via the hardware resources partitioning means performing the logical separation of the resources), the partitioning of resources (including I/O resources) and allowing for full control of the system resources to the operating system or CE based on the partitioning wherein the resources a processors and one or more ranges of physical memory (pg. 2, paragraph 0042-0044; pg. 3, paragraph 0045-0047).

As to claim 40, reference is made to an operating system that corresponds to the method of claim 1 and is therefore met by the rejection of claim 1 above. Claim 40 further details a means for providing communication between the first partition and the second partition. TODA teaches enabling the exchange of data of the two operating systems by using memory areas to which the first and second operating system can share access and, by using the ability for communication between the first and second

operating system enables the use of an outside I/O device that is managed by the first and second OS (col. 4, paragraph 0062). Therefore, TODA teaches a means for providing communication between the first and second partitions.

As to claim 43, refer to claim 40 for rejection. Claim 43 further details a means for causing a CE2 of the one or more CE2 to begin processing or to terminate. TODA teaches the communication between the operating systems uses interrupt signals to initiate or terminate processing between partition (pg. 4, paragraph 0068). Therefore, TODA teaches a means for cause one of the CE2 to begin processing or terminate, e.g. via the interrupt signal.

As to claims 2 and 3, TODA teaches partitioning the system resources via the resident operating system using hardware-based isolation techniques (hardware resources partitioning means) provided by one or more processors and the resident operating system entering a dormant state (standby state) (via the information of partitioned hardware resources management table that is obtained to partition the resources among the various partitions such that the operating system of the partitions remove hardware resources associated with another partition from its management table when the power is turned on) (pg. 3, paragraph 0051-0053).

As to claims 4 and 5, TODA teaches partitioning the system resources comprises the operating system configuring the one or more partitions using a secure platform

interface and the operating system retaining full control of one or more of the partitions (via using the hardware resources partitioning means and the information of partitioned hardware resources management table that is obtained to partition the resources among the various partitions such that the operating system of the partitions remove hardware resources associated with another partition from its management table) (pg. 2, paragraph 0042-0044; pg. 3, paragraph 0045-0047)

As to claims 6 and 7, TODA teaches a system administrator configuring the partitions using hardware partition capability provided by the computer system and separately booting the operating system and CE2s within their configured partitions (via the operator manipulating the hardware partition with instructions and the resources are partitioned based on these instructions, the instructions are stored in the hardware table read and associated with a particular operating system) (pg. 4, paragraph 0059; pg. 3, paragraph 0052-0053).

As to claims 29, 31 and 32, TODA teaches isolating to protect the system resources associated with the CE2 from the OS by employing hardware based security measures wherein the partitions includes at least one processor (via the information of partitioned hardware resources management table that is obtained to partition the resources among the various partitions such that the operating system of the partitions remove hardware resources associated with another partition from its management table when the power is turned on) (pg. 3, paragraph 0051-0053).

As to claim 41 and 42, TODA teaches reincorporating partitioned system resources (via changing the associated and turning on the power thereby amending the association of resources) (pg. 3, paragraph 0050-0053; pg. 4, paragraph 0054); separate means for operator control of the OS and separate interface means for monitoring the OS (via the operator manipulating the hardware partition with instructions and the resources are partitioned based on these instructions, the instructions are stored in the hardware table read and associated with a particular operating system) (pg. 4, paragraph 0059; pg. 3, paragraph 0052-0053).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8-16, 18-26, 30 and 33-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over TODA (U.S. Patent Application Publication 2002/0029301 A1).

As to claims 8-16, TODA teaches one or more CEs make use of capabilities not supported by the resident operating system, e.g. its hardware capabilities (via performing communication between operating systems wherein operating systems have different resources); CE's are non-portable (via being instantiated in the computer such that resources are designated to a partition) ; services provided to an application within a CE utilize no general-purpose operating system abstraction (via each partition has its

own operating system to manage its own resources); and enables recover and continue from a system error (via using interrupts to communicate and switch execution on the system) (pg. 2, paragraph 0042-0044; pg. 3, paragraph 0045-0047) (see also pg. 3, paragraph 0051-0053; pg. 4, paragraph 0064-0068; pg. 5, paragraph 0073). However, TODA does not explicitly teach that the processor assigned to a partition is a single thread processor and that the resource partition has lined system code and data modules. Official Notice is taken in that a single thread processor is a well known type of processor and therefore obvious to one of ordinary skill in the art that the processor resource of TODA is a single thread processor. In addition it would be obvious that since the operating system allows for execution and access to resources and applications are well known to be made up of application and data code and typically access the operating system to manipulate resources that it would be obvious to one of ordinary skill in the art that a partition includes the application with its associated code and data code to access and manipulate the resources associated with that partition.

As to claims 18-26, TODA teaches partitioning the system resources comprises the operating system configuring the one or more partitions using a secure platform interface and the operating system retaining full control of one or more of the partitions (via using the hardware resources partitioning means and the information of partitioned hardware resources management table that is obtained to partition the resources among the various partitions such that the operating system of the partitions remove hardware resources associated with another partition from its management table) (pg.

2, paragraph 0042-0044; pg. 3, paragraph 0045-0047). TODA further teaches employing hardware based security measures to isolate the system resources (via the hardware resources partitioning means performing the logical separation of the resources), the partitioning of resources (including I/O resources) and allowing for full control of the system resources to the operating system or CE based on the partitioning wherein the resources a processors and one or more ranges of physical memory (pg. 2, paragraph 0042-0044; pg. 3, paragraph 0045-0047). It would be obvious that the partitioned resources have different protection keys or sets of region identifiers since they are removed from access in one partition and enabled in another.

As to claims 30 and 33-38, refer to claims 8-16 for rejection.

As to claim 39, refer to claims 18-26 for rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis A. Bullock, Jr. whose telephone number is (571) 272-3759. The examiner can normally be reached on Monday-Friday, 8:30 a.m. - 5:00 p.m..

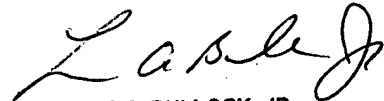
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

January 7, 2008


LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER